

Spark Gap

Vol. 30, Issue 7, July 2013 *MARC - Serving Central Indiana Communities for thirty years*

On Our MARC...

I would like to express my thanks to all of you who took part in the MARC's Field Day activities at the EOC last month. I think everyone had a good time. We realized a few more contacts than last year and at the same time got a chance to put our radio room through its paces. We will build on what we learned for next year.

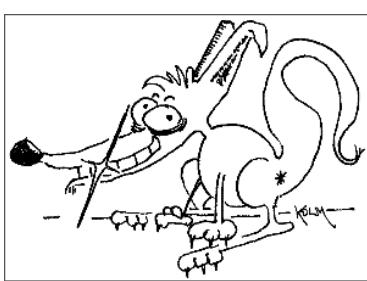
We get a chance to catch our breath in July and then we hit the ground running on August 10th with another one of our 1-day Technician licensing classes at the EOC. If you have a family member or a friend that you've been trying to get involved in amateur radio, here is an easy way to get them started. They walk in at 8:00 a.m. with an interest and at the end of the day they walk out as a ham. We hope that you will put the date on your calendar and come spend some time in support of our students.

Our constitution clearly states that at the July business meeting, the president is to appoint a nominating committee. By doing so, the process begins to select the next team of officers to lead the MARC. Nominations will be accepted until the August meeting, at which time the slate will be set. Voting will take place up to the annual picnic in September, when the winners will be announced. Our new officers will begin their terms in October. All five positions, president, vice-president, secretary, treasurer, and repeater trustee are up for election. Any dues-current, full member of the MARC, with a valid amateur radio license can hold an office. The only special criterion is on the position of repeater trustee, which requires at least a general class license. I would encourage each of you to consider throwing your hat into the ring for a leadership role with the club.

I hope to see each of you at our business meeting at 8 a.m. on Saturday, July 20th. I'll have the coffee pot on!

See you soon!

Bob - KC9NJM
President



Fox Hunt Details

The August Fox Hunt will be Saturday, August 3 from 2pm to 4pm. We will start at Garfield Park at shelter 5 which is located at Shelby St and Raymond St.

Everyone is welcome to attend, whether or not you have equipment and/or experience.

Hope you see you there. Steve ND9C

One day Technician License Class

Saturday August 10, 2013, 8am at Johnson County Emergency Operations Center. Contact: secretary@midstatehams.org to register and details concerning the class.

Field Day 2013

“We were down on 40 and 80 overnight”. That seemed to say it all from Field Day coordinator Steve Carmean, K9DY. Our 2013 effort to beat the contact records only produced an average return. According to the logs we only made 276 QSOs. That was up slightly over last year. Most clubs score in the one thousand range, but run at least three more stations.

Steve Carmean and Steve Brown used the multi-band vertical on 20-15-10 (and 6!) and thought they were pretty good. Brown, N9LC tried his pickup truck sloper but only made one contact before thunderstorms forced him inside and away from his jail annex location. This move changed us from 3F (operating in the EOC) to 2F.

Rusty Kirts, N9LLP said the bands overnight were not as good as last year. He brought a friend to help log. Joe Antonetti, KC9VKL helped hold down the overnight session.

The 276 contacts broke out this way:

80M 15
40M 51
20M 162
15M 21
10M 24
6M 3

According to Steve, K9DY, “The vertical worked great.....the dipole not so great. Could have been conditions on 40 and 80. But, the dipole is for NVIS not for DX”.

The following members signed in and participated: K9THR, KC9YIA, KC9ULB, KB9LOT, K9ODY, W8ISH, N9LC, AE9H, K9ICP, N9LLP, KC9WLR, KC9VKL.

We had 3 visitors Saturday, KC9JJJ and parents. He is handicapped. We had 2 non-ham loggers. Total 17 bodies.

One bright note, we advanced in the digital field thanks to Chris Rose, KC9YIA. Chris was able to set up a three computer network for logging. This put all our logging computers on the same network and made it easier to check on dupes during the contest and with reporting total contacts.

Hot dogs, chips and soft drinks were provided. Our thanks to all those who took time out of a great summer weekend to work Field Day 2013.

.....Jack w8ish

Hi Tech Tornado Chasers to visit MARC meeting ... Saturday.. July 20th

As trained Skywarn weather spotters we have all peered out the windows looking for signs of threatening weather. Some of us have even chased storms across the county looking for funnels and an opportunity to report foul weather to NWS.

The spread of Wi-Fi Hot Spots has enabled us to tap into the real time Doppler Radar feeds so we can track and visually see the strong thunderstorm cells moving across country. One of those teams that has taken mobile storm chasing to the next level is headed up by Shawn Brown, KC9QHA. Shawn and his team will join us at our July 20th club meeting as we ride along with their team chasing the Big One.

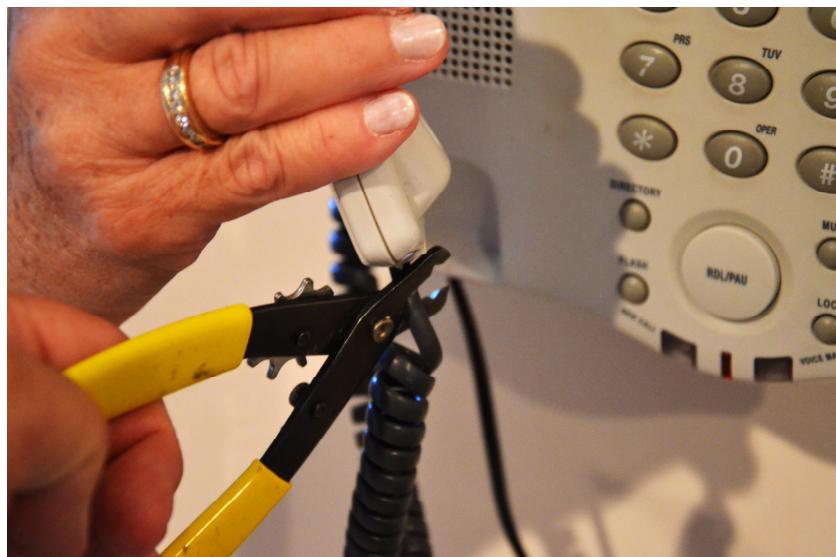
New Jersey loses phone service

Get your wire cutters sharpened, the phone company has started cutting service to consumers. As New Jersey residents begin to rebuild following Hurricane Sandy last fall Verizon and now AT&T are refusing to lay down new copper phone lines that were washed away along the Jersey shore. Verizon says it will cost hundreds of dollars to replace the outdated lines to each home and business.

According to AP, the second-largest landline phone company, Verizon, is taking the lead by replacing those copper lines with wireless alternatives. Mantoloking, New Jersey is one of the first places in the country where the traditional phone service is being cut.

AP reports the lines have been sup-planted by cell phones and Internet-based phone service offered by way of cable and fiber optic wiring. An industry trade group US Telecom, says only 1 in 4 U.S. households will have a copper phone line at the end of this year.

Verizon says replacing the lines doesn't make economic sense. "If we fixed the copper, there's a good likelihood people wouldn't even use it," says Tom Maguire, Verizon's senior vice president of operations support.



This is how it is done.

Transmitter hunting or known as “Fox Hunting”

Transmitter hunting (also known as **T-hunting**, **fox hunting**, **bunny hunting**, and **bunny chasing**), is an activity wherein participants use radio direction finding techniques to locate one or more radio transmitters hidden within a designated search area. This activity is most popular among amateur radio enthusiasts, and one organized sport variation is known as amateur radio direction finding.

Types of transmitter hunts

Transmitter hunting is pursued in several different popular formats. Many transmitter hunts are organized by local radio clubs, and may be conducted in conjunction with other events, such as a radio enthusiast convention or club meeting. Before each hunt, participants are informed of the frequency or frequencies on which the transmitters will be operating, and a set of boundaries that define a search area in which the transmitters will be located. Transmitter hunters use radio direction finding techniques to determine the likely direction and distance to the hidden transmitter from several different locations, and then triangulate the probable location of the transmitter. Some hunts may include limits on the amount of time allowed to find a transmitter. Although many transmitter hunts are conducted just for the fun of the activity, some more competitive hunts will recognize winners in publications and offer awards, such as medals or trophies.

Mobile transmitter hunts

Mobile transmitter hunts are organized events where participants travel exclusively or primarily in motor vehicles. Most mobile transmitter hunts use VHF transmitters and receivers. Some participants use radio direction finding equipment and antennas mounted on a vehicle, whereas others use antennas that are temporarily deployed in an open window or an opening in the vehicle roof that can be easily rotated by hand while the vehicle is in motion. Other participants employ handheld antennas and radios that can only be used when the vehicle is stationary. Some mobile transmitter hunts require participants to leave their vehicles and proceed on foot to reach the actual location of the radio transmitter. The winner of a mobile transmitter hunt can be either the first vehicle to arrive at the hidden transmitter, or the vehicle that travels the shortest overall distance to locate the hidden transmitter. Mobile transmitter hunts are more popular in North America than other parts of the world.

See also: Amateur radio mobile operation

Pedestrian transmitter hunts

Main article: Amateur radio direction finding

A regulated sport form of transmitter hunting by runners on foot is called Amateur Radio Direction Finding, known worldwide by its acronym, ARDF. It is an amateur sport that combines the skills of orienteering and radio direction finding. ARDF is a timed race in which individual competitors use a topographic map and a magnetic compass to navigate through diverse, wooded terrain while searching for hidden radio transmitters. ARDF is the most popular form of transmitter hunting outside North America.

Fixed location transmitter hunts

Some transmitter hunts feature a "mail-in" competition, in which teams in fixed locations work together to locate hidden transmitters, then secretly give the coordinates to the organizers without actually traveling to the

transmitter location. The team which provides the closest coordinates wins, thus a team which believes that the transmitter is in the northwest parking lot at 2nd and Elm (if it actually is there) will beat a team which says that the location is 2nd and Elm. This type of hunt enables participation by contestants who are unable to travel, such as shut-ins, school groups, etc., and requires a greater level of skill and coordination.

Equipment

Directional antennas are popular choices for transmitter hunting. A directional antenna is more sensitive to received signals in some directions than others. When a directional antenna is rotated, a received signal will either increase or decrease in signal strength, information from which a skilled hunter can determine the likely direction to the transmitter. The most popular designs for mobile transmitter hunts are quad antennas with three to five elements. Special design considerations include adequate strength to withstand the wind at highway vehicle speeds and ease of repair after collisions with overhead tree branches. In mobile transmitter hunts, directional antennas are often turned by hand while the vehicle is in motion.

Some radio direction finding equipment popular with mobile transmitter hunters operates on the time difference of arrival principal. Two identical antennas are mounted a precise distance apart from one another. Specialty electronics compare the phase of the signal received on each antenna and determine whether the signal is coming from a direction closer to one antenna or the other. This information is commonly displayed with LEDs on a display. These devices are popular for mobile transmitter hunts where participants have to exit their vehicles and proceed to the transmitter location on foot.

Some mobile transmitter hunters use equipment based on exploiting the principle of Doppler shift. At least four antennas are mounted in a precise geometric pattern, often on the roof of a vehicle. Specialty electronics computes the amount of Doppler shift present in the received signals and determines a probable direction from which the signal originates. The direction is commonly displayed using LEDs oriented in a circle or a straight line. Advanced units can use a compass or GPS receiver to compute a direction relative to the instant motion of the vehicle.

Attenuators are used by transmitter hunters to reduce the received signal strength of a transmitter. Attenuators are most often used when approaching the near vicinity of a transmitter, in order to keep the received signal strength within a usable range.

The transmitter can be as small as this one made by Byonics.



Fox Hunting is a lot of fun! You just might want to give this part of the hobby a try.

M.A.R.C. FIELD DAY 2013





2013 HAMFESTS

July 13 **Indianapolis Hamfest**, Marion County Fairgrounds,
<http://www.indyhamfest.com/>

August 17 **RCARC 7th Annual Tailgater/HamFest**, Rom-Weber Marketplace,
7 S. Eastern Ave, Batesville, IN <http://www.rcarc.net/HamFest.html>

September 7 **Michiana Amateur Radio Club Hamfest**, Elks Club Lodge#235,
3535 E. McKinley Ave., South Bend, IN , 8 AM til 1 PM, contact Bob at
kb9iva@sbcglobal.net or 574-674-2835

October 5 **Hoosier Hills Hamfest**, Lawrence County 4H Fairgrounds,
11261 US Hwy 50 West., Bedford, Indiana <http://www.w9qyq.org/>

Nov. 16-17 **Indiana State Convention, Fort Wayne Hamfest & Computer Expo.**
Allen County War Memorial Coliseum, Fort Wayne, Indiana
<http://www.fortwaynehamfest.com/>



MID-STATE AMATEUR RADIO CLUB

The Mid-State Amateur Radio Club meets the THIRD SATURDAY of each month in the basement of the Johnson County Emergency Management Agency, 1111 Hospital Road, Franklin, Indiana 46131.

See our website, www.midstatehams.org, for maps on how to get to our meeting.

Everyone is welcome; you do not have to be a HAM to attend our meetings or a member of the club.

WA9RDF
Repeater
146.835/
146.235 MHz
151.4 Hz PL Tone

Club Officers:
President: Robert Jones – KC9NJM
Vice President: Jack Parker – W8ISH
Secretary: Rhonda Curtis– WS9H
Treasurer: Jacki Frederick – KI6QOG
Repeater Trustee: Steve Brown – N9LC

Weekly Net: Sunday evening 7:00 PM ARES/RACES members and ALL RADIO AMATEURS

The Official Newsletter of the Mid-State Amateur Radio Club

P.O. Box 836
Franklin, Indiana
46131

Editor: Robert LaGrange N9SIU

Please send your articles to my email n9siu@yahoo.com no later than the 3rd of the month

